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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,799	01/07/2000	Masanobu Hayama	23.1090	2190
21171	7590	09/14/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			AWAD, AMR A	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 09/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/478,799

Applicant(s)

HAYAMA ET AL.

Examiner

Amr Awad

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17, 20 and 21 is/are allowed.
- 6) ☒ Claim(s) 22-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rowe (U.S. Patent 5,479,190) in view of Siddiqui (U.S. 5,912,661).

Rowe teaches an input device having a polygonal wheel structure by disclosing a multi-axis continuous loon 150 or boundaryless input device for control of a pointer or cursor on a computer screen or other graphical displays (see Abstract; see also column 3, lines 6-13; column 8, lines 55-57, figure 13 at 150).

Furthermore, Rowe teaches how the polygonal wheel structure 150 comprises a plurality of rotating bodies 154 surrounding a circumferential band defined by a continuous band 152 (see figure 13 at 152, 154).

Furthermore, Rowe teaches a wheel 160 which is rotatable along a first axis comprising a plurality of rotating bodies 154 that are disposed along the wheel 160 and rotating with a circumferential edge of said wheel about a first axis and the

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plurality of rotating bodies rotatable about a second axis (see figure 13 at 160, 154, column 8, lines 55 through column 9, lines 14).

The circumferential edge is further defined by a continuous band 152, which acts as a support for the grooved elements 154 (column 8, lines 55-60, figure 13 at 152, 154).

Furthermore, Rowe teaches how each of the rotating bodies have an interior thereof with raised portions and recessed portions with the wheel having projections (see figure 13, 14 at 154, 160). Also, Rowe teaches how the rotating bodies (154, 160), tacitly communicate by disclosing a position control device comprising: a plurality of grooved segments each presenting a longitudinal void there through, an annular band for supporting said segments and holding said segments in adjacent annular array to permit a user to apply a rotational force on at least one of said segments to accomplish rotational movement of said segment for communication of said rotational force to a detector and to permit a user to apply a lateral force to at least one of said segments to accomplish lateral movement of said segment for communication of said lateral force to a detector, means for detecting lateral movement of at least one of said segments, means for detecting rotational movement of at least one of said segments, and means responsive to said detected segment movement for generating a signal to effect repositioning of a symbol on a graphic display device (column 10, lines 22-41).

Also, Rowe teaches a detector (30) that is responsive to the indicia (26) in order to generate a signal which maybe processed and communicated to the cursor or pointing device to achieve movement of the cursor (see column 5, lines 2-23, figure 1 at 30).

However, *Rowe* does not teach a processing unit to detect and to output at least one of a rotating state of the polygonal wheel and a respective one of the rotating bodies, which is being rotated.

On the other hand, *Siddiqui* teaches a mouse (12) having a rotating wheel button (22) with an optical encoding wheel (44), and axle (30) which had left and right bearing surfaces (36, 38) which are all mounted along the circumference of the wheel (column 3, lines 3-8, figure 2 at 12, 22, 30, 36, 38 & 44), and a light detector (48) which serve as a detection means by sensing the motion of the optical encoder which is along the surface of the wheel (22), and then providing a positioning signal (see Abstract; see also column 3, lines 43-51, figure 2 at 12, 44 & 48; column 4, 33-40, "figure 7).

Thus, it would have been obvious for a person of ordinary skill in the art to combine *Rowe* and *Siddiqui's* inventions because while *Rowe* teaches a wheel 160 which is rotatable along a first axis comprising a plurality of rotating bodies 154 that are disposed along the wheel 160 and rotating with a circumferential edge of said wheel about a first axis and the plurality of rotating bodies rotatable about a second axis (see figure 13 at 160, 154, column 8, lines 55 through column 9, lines 14) wherein the circumferential edge is further defined by a continuous band 152, which acts as a support for the grooved elements 154 (column 8, lines 55-60, figure 13 at 152, 154), *Siddiqui* teaches a wheel rotating detection means by teaching a rotating wheel button (22) with an optical encoding wheel (44), and axle (30) which has left and right bearing surfaces (36, 38) which are all mounted along the circumference of the wheel (column 3, lines 3-8, figure 2 at 12, 22, 30, 36, 38 & 44), and a light detector (48) which serves as a detection means by sensing the motion of the optical encoder which is along the

surface of the wheel (22), and then providing a positioning signal . The motivation for combining these inventions would have been to provide a more efficient tactile and aural feedback to a user of this input device when a user depresses the input device or rotates the wheel (column I, lines 60-63).

Furthermore, Siddiqui teaches a format change-over switch and a data transmission means by teaching left and right click buttons (18, 20) with their respective left and right microswitches (54, 56) and how they are manipulated with the wheel to operate the input device (column 4, lines 11-20, figure 7 at 18, 20, 54 & 56) with a third switch in the form of a switch engager (50) which depresses the switch button (51) of a microswitch (52) when the wheel button (22) is depressed (column 4, lines 11-20, figure 7 at 22, & 50-52). Also, Siddiqui teaches a detecting means for the third switch by teaching that microswitch (52) is mounted on a circuit board (28), along with left and right microswitches (54, 56) that are activated by left and right mouse buttons (column 4, lines 11-20, figure 7 at 28, 52, 54 & 56). This provides a detection means for detecting the operating state of the switches and also enables the mouse buttons (18, 20) to provide tactile and aural feedback to a user who depresses the wheel (22) (column 4, lines 11-20, figure 7 at 18, 20 & 22).

#### ***Allowable Subject Matter***

4. Claims 1-21 are allowed.

#### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of indicating the allowance of these claims. However, with respect to

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claims 22-25, the rejection is proper. The argument was not specific to these claims, and Examiner believes that the cited references read on the claimed limitations.

**Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (571) 272-7764. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571)272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amr Awad  
Primary Examiner  
Art Unit 2675

A. A.

AMR A. AWAD  
PRIMARY EXAMINER  
